

APPLICATION FOR UNITED STATES LETTERS PATENT

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INVENTION: CLIENT SYSTEM, MESSAGE EXCHANGING
METHOD, AND RECORDING MEDIUM

S P E C I F I C A T I O N

This present disclosure relates to subject matter contained in Japanese Patent Application No. 2000-351914, filed on November 17, 2000, the disclosure of which is expressly incorporated herein by reference in 5 its entirety.

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

10 The present invention relates to a client system, a message exchanging method, and a recording medium and more specifically, to a client system, a message exchanging method, and a recording medium which allow 15 a plurality of users to exchange messages on a network.

DESCRIPTION OF THE RELATED ART

20 Network communications tools are conventionally available which allow users of client machines connected to a network represented by the Internet to exchange messages in real time.

25 Some tools allow two users to exchange messages on the Internet in real time using a unicast function (one-to-one communication). For example, one-to-one message exchanging tools for a multiwindow environment such as the ICQ (a trade mark of Milabilis in Israel)

enable two users to exchange messages by displaying different screens for transmitted and received messages on the client machines.

Additionally, some tools use a multicast function (communication within a particular group from one user to a plurality of users), which allows multiple users to exchange messages on the Internet in real time, that is, to enjoy chats. Chat tools display within one screen chat messages transmitted to a chat room opened by a server machine and saved therein according to time series.

If a user uses the tool allowing two users to exchange messages in the multiwindow environment, the user must switch screens for each transmission or reception; these operations are cumbersome.

In addition, when two users are exchanging messages in real time using the one-to-one message exchanging tool and if one of the users receives a message from a third person who is known to these two users, the three users may desire to enjoy a chat. In this case, the use of the one-to-one message exchanging tool is stopped, one of the users opens a new chat room using the above-mentioned chat tool, and the three users then enter the chat room opened using the chat tool. It is, however, cumbersome to use these different network communications tools. This problem must be solved.

SUMMARY OF THE INVENTION

It is thus an object of the present invention to
5 provide a client system, a message exchanging method,
and a recording medium which enable two users to
interact with each other using simple operations and
which enable one-to-one interactions to shift to
interactions between three or more users using simple
10 operations.

To attain this object, according to the present
invention a client system is provided in a message
exchanging system including client systems and at
least one server system connected together via a
15 communications network. The server system
authenticates each user of the client systems and
accumulates and distributes messages. The client
systems exchange messages via the server system. The
client system includes a first message exchanging
20 system that enables one-to-one message exchanges with
a first client system of the client systems. The
client system includes a second message exchanging
system that enables simultaneous message exchanges
with one or more second client systems of the client
25 systems, and a message exchange switching system. The
message exchange switching system switches between the
first message exchanging system and the second message

exchanging system, if the client system receives a message from the second client system while the first message exchanging system is exchanging messages with the first client system, the message exchange

5 switching system switches from the first message exchanging system to the second message exchanging system to enable message exchanges with the first and second client systems.

10 Additionally, the message exchange switching system sets in the server system an environment for allowing the second message exchanging system to exchange messages if the message exchange switching system switches from the first message exchanging system to the second message exchange switching system.

15 Further, the first message exchanging system displays exchanged transmitted and received messages in one display screen in the order of transmissions and receptions.

According to the present invention, there is
20 provided a message exchanging method for a client system in a message exchanging system including client systems and at least one server system connected together via a communications network. The server system authenticates each user of the client systems
25 and accumulates and distributes messages. The client systems exchange messages via the server system. The method includes a first message exchange that enables

one-to-one message exchanges with a first of the client systems, & a second message exchange that enables simultaneous message exchanges with one or more second client systems of the client systems. The 5 method also includes message exchange switching that switches between the first message exchange and the second message exchange. If a message is received from the second client system while the first message exchange is exchanging messages with the first client system, the message exchange switching switches from the first message exchange to the second message exchange to enable message exchanges with the first and second client systems.

According to the present invention, there is 15 provided a message exchanging method for a message exchanging system including client systems and at least one server system connected together via a communications network. The server system authenticates each user of the client systems and 20 accumulates and distributes messages. The client systems exchanging messages via the server system. The method includes a first message exchange that enables one-to-one message exchanges with another first client system of the client systems, and a 25 second message exchange that enables simultaneous message exchanges with one or more other second client systems of the client systems. The method also

includes message exchange switching that switches between the first message exchange and the second message exchange. If a message is received from the second client system while the first message exchange

5 is exchanging messages with the first client system, the message exchange switching switches from the first message exchange to the second message exchange to enable message exchanges with the first and second client systems.

10 According to the present invention, there is provided a computer-readable recording medium for a client system in a message exchanging system. The recording medium has a message exchanging program recorded therein. The message exchanging system

15 includes client systems and at least one server system connected together via a communications network. The server system authenticates each user of the client systems and accumulates and distributes messages. The client systems exchange messages via the server system.

20 The program includes a first message exchange that enables one-to-one message exchanges with a first of the client systems, second message exchange that enables simultaneous message exchanges with one or more second client systems of the client systems. The

25 method also includes message exchange switching that switches between the first message exchange and the second message exchange. If a message is received

from the second client system while the first message exchange is exchanging messages with the first client system, the message exchange switching switches from the first message exchange to the second message

5 exchange to enable message exchanges with the first and second client systems.

According to the present invention, there is provided a program product of a message exchanging method for a client system in a message exchanging

10 system including client systems and at least one server system connected together via a communications network. The server system authenticates each user of the client systems and accumulates and distributes messages. The client systems exchange messages via 15 the server system. The program product includes a first message exchange that enables one-to-one message exchanges with another first client system of the client systems. The program product also includes a second message exchange that enables simultaneous 20 message exchanges with one or more second client systems of the client systems, and a message exchange switching that switches between the first message exchange and the second message exchange. If a message is received from the second client system 25 while the first message exchange is exchanging messages with the first client system, the message exchange switching switches from the first message

exchange to the second message exchange to enable message exchanges with the first and second client systems.

Additionally, the message exchange switching 5 includes setting in the server system an environment for allowing the second message exchange to exchange messages if the message exchange switching switches from the first message exchange to the second message exchange.

Further, the first message exchange displays 10 exchanged transmitted and received messages in one display screen in the order of transmissions and receptions.

According to the present invention, the client 15 system in the message exchanging system can execute one-to-one message exchanges with a first of the client systems, and can execute simultaneous message exchanges with one or more other second client systems of the client systems. When the client system 20 receives a message from the second client system while exchanging messages with the first client system, the client system can switch from the one-to-one message exchange with the first client system to the simultaneous message exchanges with the first and 25 second client systems.

Additionally, according to the present invention, the environment for allowing the simultaneous message

exchanging system to exchange messages is set in the server system if the one-to-one message exchange with the first client system is switched to the simultaneous message exchanges with the first and 5 second client systems. Thus, one-to-one interactions can be switched to the interactions between three or more users using simple operations.

According to the present invention, the client system displays, for the one-to-one message exchanges 10 with the first client system further, displays exchanged transmitted and received messages in one display screen in the order of transmissions and receptions.

Thus, the one-to-one interactions are possible 15 with simple operations.

The above and other objects, effects, features and advantages of the present invention will become more apparent from the following description of 20 embodiments thereof taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a system 25 configuration of a network system according to an embodiment of the present invention;

FIG. 2 is a view useful in explaining an

environment used for a home video game machine according to an embodiment of the present invention;

FIG. 3 is a block diagram of the system configuration of a game machine body according to an 5 embodiment of the present invention;

FIG. 4 is a view showing an example of a controller according an embodiment of the present invention;

10 FIG. 5 is a view showing an example of a screen of a viewer displayed immediately after a login operation according to an embodiment of the present invention;

15 FIG. 6 is a view showing an example of a navigator top screen according to an embodiment of the present invention;

FIG. 7 is a view showing an example of a chat room selecting section according to an embodiment of the present invention;

20 FIG. 8 is a view showing an example of a chat screen according to an embodiment of the present invention;

FIG. 9 is a view showing an example of a friend screen according to an embodiment of the present invention;

25 FIG. 10 is a view showing an example of a message screen according to an embodiment of the present invention;

FIG. 11 is a view showing an example of a message screen according to an embodiment of the present invention;

5 FIG. 12 is a view showing an example of a message screen according to an embodiment of the present invention;

FIG. 13 is a view showing an example of a message screen according to an embodiment of the present invention;

10 FIG. 14 is a view showing an example of a memory card according to an embodiment of the present invention; and

15 FIG. 15 is a flow chart showing a process procedure of a viewer program according to an embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

An embodiment of the present invention will be 20 described below in detail. In the drawings, parts having the same functions are denoted by the same reference numerals to eliminate duplicate explanation of the same parts.

A message exchange system according to the 25 present embodiment will be explained as a function for a network service system provided by a network service company. The network service system according to the

present embodiment provides network services for subscribed users via the Internet, the network services being provided by the network service company by installing and operating a group of servers.

5 The network services include, for example: a content viewing service that provides sports, music, comics, shopping, and various other information, a communications service that provides an environment for real-time message exchanges between users (this environment constitutes a message exchanging system according to the present embodiment) and a mail service environment, and game service that provides an online game environment activated via the network.

10 The subscribed users for the network services activate a viewer (data displaying software) dedicated for the network services, on a client machine, and access the group of servers of the network service company to receive the services.

15 20 (System Configuration)

FIG. 1 shows the system configuration of a network service system according to the present embodiment. In FIG. 1, the network service system includes a communications network 101, a group of servers 102 of a network service company, client systems 103a, 103b, 104a, 104b, and the like connected to the group of servers 102 via the communications

network 101 and used by a group of users. The group of servers 102 and the client systems 103a, 103b, 104a, and 104b are each a computer system.

The client systems 103a and 103b are home video game machines. The client systems 104a and 104b are personal computers (hereafter referred to as "PCs"). The client systems 103a and 103b can load and activate the program of the above-mentioned viewer from a CDROM. The client systems 104a and 104b has the viewer loaded therein beforehand.

The communications network 101 has the group of servers 102 and the client systems 103a, 103b, 104a, 104b, and the like connected thereto. The communications network 101 is assumed to be the Internet according to the present embodiment. A typical protocol such as TCP/IP, HTTP (HyperText Transfer Protocol), SMTP (Simple Mail Transfer Protocol), or FTP (File Transfer Protocol) may be used to transmit and receive data.

In response to a request from each of the client systems, the group of servers 102 access and process retained data and provide services for the client system. The group of servers 102 have a group of authentication servers 102a, a group of content servers 102b, a group of message servers 102c, a group of mail servers 102d, a group of game A servers 102e, a group of game B servers 102f, and a group of profile

servers 102g.

The group of authentication servers 102a includes authentication server systems. The authentication server systems each manage the account (user ID 5 (identifier)) and password of each subscribed user. The authentication server systems may also manage connections of users (online/offline) and the addresses of the client machines of users who are online.

10 The group of content servers 102b includes content server systems. The content server systems each provide sports, music, comics, shopping, and various other information.

15 The group of message servers 102c includes message server systems. The message server systems each provide an environment for real-time message exchanges between users. Specifically, the message server systems provide an environment for a messenger application and a chat application (components of the 20 message exchanging system according to the present embodiment; described later) activated by a user on his or her client machine. It essentially executes routing (setting destinations and paths) for distributing exchange messages from the messenger 25 application and chat messages from the chat application.

The group of mail servers 102d includes mail

server system. The mail server systems each provide an environment for electronic-mail exchanges between users.

The group of game A servers 102e and the group of 5 game B servers 102f include game server systems. The game server systems each provide an environment for an online game. A user activates an online game in the game server system from the viewer to play the game. If that online game is a role playing game (the user 10 acts as a character in the game), the user can play this role playing game with other member users.

The group of profile servers 102g includes profile server systems. The profile server systems each manage the profile (introduction) of a user 15 corresponding to each account. A user can register his or her profile in the profile server system from the viewer.

(Client System)

In the present embodiment, a description will be 20 given of a case where the client system is a home video game machine in the above system configuration.

FIG. 2 is a view showing an example of an environment used for the client systems 103a, 103b, and 103c that are home vide game machines. These 25 client systems are connected to the group of servers 102 via the communications network 101.

The client system 103a includes a game machine

body 201, a television receiver 202, and a controller 203. Likewise, the client system 103b includes a game machine body 204, a television receiver 205, and a controller 206, and the client system 103c includes a game machine body 207, a television receiver 208, and a controller 209.

The game machine body 201 activates the viewer and accesses the group of servers 102. The television receiver 202 outputs image and sound data from the game machine body 201. The controller 203 inputs the user's instruction to the game machine body 201.

In the present embodiment, users named Maehiro, Junko, and Naoki use the client systems 103a, 103b, and 103c, respectively, to access the group of servers 102.

FIG. 3 shows the system configuration of the game machine body 201. In this figure, the game machine body 201 includes a CPU (Central Processing Unit) 201a, a system memory 201b, a VRAM (Video RAM) 201c, an image controlling module 201d, a sound controlling module 201e, a memory card slot 201f, an I/O (Input/Output) interface 201g, a communications interface 201h, and a CDROM drive 201i.

The CPU 201a controls the entire game machine body 201 in accordance with a control procedure of a program loaded or stored in the system memory 201b.

The system memory 201b includes a ROM (Read Only

Memory), a RAM (Random Access Memory), or the like.

The ROM has a BIOS (Basic Input/Output System) program stored therein, and the RAM has control data and a viewer program temporarily stored therein, the viewer

5 program loaded from the CDROM in the CDROM drive 201i.

The VRAM 201c expands image data displayed on the television receiver 202 and temporarily stores them.

The image controlling module 201d controls the image data displayed on the television receiver 202. The

10 sound controlling module 201e controls sound data output through the television receiver 202.

The memory card slot 201f is an interface into which a memory card storing data referenced by CPU 201a to activate the viewer is inserted.

15 The I/O interface 201g inputs and outputs data between an external apparatus such as the television receiver 202 or the controller 203 and the game machine body 201. The communications interface 201h controls communications with the communications

20 network 101.

The CDROM drive 201i drives a CDROM storing a program and reads the program. In the present embodiment, the CDROM storing the viewer program is read from the CDROM drive 201i and loaded in the RAM 25 of the system memory 201b.

FIG. 4 shows the controller 203. Reference numerals 203a, 203b, 203c, and 203d denote an up, down,

left, and right directional keys, respectively.

Reference numeral 203e denotes a circle button, and reference numeral 203f denotes a cross button. The user presses these keys or buttons to give

5 instructions to the game machine body 201.

The directional keys 203a, 203b, 203c, and 203d move, for example, a cursor (a highlight for designating an item) on a screen of the viewer displayed on the television receiver 202, in

10 corresponding directions.

The circle button 203e is used to allow the cursor to perform an operation of deciding a certain item. The cross button 203f is used to cancel the deciding operation or return to the preceding

15 operation step.

(Message Exchange)

A case where the user named Maehiro uses the client system 103a to exchange messages with Junko using the client system 103b and with Naoki using the

20 client system 103c will be described below with

reference to FIGS. 5 to 13.

When the user named Maehiro sets the CDROM storing the viewer program, in the game machine body 201, the latter activates the viewer.

25 The viewer prompts, through its initial screen, the user to input his account and password, so the user inputs his account and password from a software

keyboard (a keyboard is displayed on the screen) or an external keyboard (not shown) and uses the circle button 203e to perform the deciding operation to thereby log in the viewer.

5 The viewer of the present embodiment can use as login accounts four accounts including one master account and three subaccounts. The user named Maehiro is assumed to have logged in using his master account "maehiro".

10 FIG. 5 shows the screen of the viewer displayed immediately after the login operation. In this figure, a viewer menu screen 501 includes an account 502, a navigator command button 503, a game command button 504, a sports command button 505, a music command button 506, a comics command button 507, and the like. At this point of time, the viewer is off line relative to the group of servers 102.

15 The user moves the cursor to a desired button and performs the deciding operation using the circle button 203e, thereby activating the function associated with the decided button. In this manner, the user can perform the deciding operation on an item with the cursor placed thereon to activate the function associated with that item.

20 When the user performs the deciding operation on the game command button 504, a game tool is activated which is used to access the group of game A servers

102e and the group of game B servers 102f to play the game.

When the user performs the deciding operation on the sports command button 505, the music command 5 button 506, the comics command button 507, or the like, a content viewing tool is activated which is used to access the group of content servers 102b to obtain various content information.

When the user performs the deciding operation on 10 the navigator command button 503, a communications tool "navigator" is activated which is used to access the group of message servers 102c, the group of mail servers 102d, and the group of profile servers 102g to provide a communications service. The navigator is a 15 communications tool providing integral functions of a messenger application (hereafter simply referred to as a "messenger"), a chat application, a mail application, and others.

A case where the navigator is activated will be 20 described below. When the navigator is activated, the above-mentioned account and password used by the user for the login operation are used to authenticate the access to the group of servers 102, and the viewer gets on line to the group of servers 102.

25 FIG. 6 shows a screen of the viewer displayed if the deciding operation is preformed on the navigator command button 503 to activate the navigator. In FIG.

6, a navigator top screen 601 has a messenger main window 602, a chat command button 603, a mail command button 604, and others.

Immediately after the navigator has been activated, the messenger is automatically activated, the viewer gets on line to the group of message servers 102c, and the messenger main window 602 is displayed. The messenger is a communications tool that accesses the group of message servers 102c, that always monitors connections of subscribed users to the group of servers 102, and that enables message exchanges between two users in the online state in real time.

When the user performs the deciding operation on the main command button 604, the mail application is activated which is used to access the group of mail servers 102d to exchange electronic mails.

When the user performs the deciding operation on the chat command button 603, the chat application is activated which is used to access the group of message servers 102c for chats. A viewer screen displayed in this case is shown in FIG. 7.

FIG. 7 is a chat room selecting screen 701. The user performs the deciding operation by, for example, moving the cursor to a chat room 703 to be selected. To open a new chat room, the user performs the deciding operation on a chat room opening button 702

and executes a procedure of newly establishing a predetermined chat room in the message server system of message servers 102c.

FIG. 8 is a viewer screen displayed when the user 5 selects or newly opens a chat room on the chat room selecting screen 701 in FIG. 7. In FIG. 8, a chat screen 801 has a chat window 802, a message input window 803, a list of members 804, and others.

The message server system manages chat room data 10 including the list of members of the opened chat room, and chat messages transmitted to the chat room and saved in accordance with time series. The message server system transmits the chat room data on the opened chat room to the users of the accounts shown in 15 the list of members, using a multicast function.

The client system displays the chat messages from the received chat room data on the chat window 802, while displaying the list of members from the received chat room data in the list of members 804.

20 Referring back to FIG. 6, the user named Maehiro can select another user from the messenger main window 602 to exchange messages with in real time on a one-to-one basis.

At this time, while exchanging messages with 25 another user in real time using the messenger, the user named Maehiro may receive a message from a third person. In this case, without the above described

procedure of performing the deciding operation on the chat command button 603, opening a new chat room on the chat room selecting screen 701 in FIG. 7, and displaying the chat screen 801 in FIG. 8, the

5 messenger can automatically open a new chat room so as to simply switch to chats between three or more users. This is characteristic of the message exchanging system of the present embodiment.

The messenger will be explained below in detail.

10 In FIG. 6, the messenger main window 602 displays a friend list.

The friend list displays the accounts of friends, that is, subscribed users with whom the user named Maehiro has been acquainted, for example, through an online game, in connection with the account "maehiro" based on previously registered account friend list data.

15 The friend list on the messenger main window 602 includes an account 605, online friends 606, offline 20 friends 607, and others.

The online friends section 606 shows the accounts of users in the friend list who are now on line to the group of servers 102. The offline friends 607 indicate the accounts of users in the friend list who are now 25 off line to the group of servers 102. The online friends section 606 further shows the status of online users, for example, the names of online games they are

playing.

If the account of Junko using the client system 103b is "Junko", the account of Naoki using the client system 103c is "Naoki", and both accounts are 5 registered in the friend list data for the account "maehiro", then the accounts "Naoki" and "Junko" are displayed in the online friends section 606.

The account "Junko" 608 in the online friends section 606, which is indicated by the cursor, is also 10 shown to be playing the online game FFX1.

By moving the cursor within the friend list on the messenger main window 602, the user can view in an information window, user information for the account indicated by the cursor. For example, information on 15 Junko of the account "Junko" 608, which is indicated by the cursor, is displayed in the information window 609.

The information window 609 displays a simplified profile 610 of Junko of the account "Junko" and a user 20 status 611 (for example, the name of the online game the user is playing).

The information on whether the user of each account in the friend list is online or offline, the status of online users, and the like is obtained by 25 the messenger by accessing the group of messenger servers 102c and always monitoring them.

In FIG. 6, when the user performs the deciding

operation on the account "Junko" 608, which is indicated by the cursor, the viewer displays a screen for issuing various subcommands to Junko of the account "Junko". FIG. 9 shows a viewer screen 5 displayed in this case.

FIG. 9 shows a friend screen 901 for issuing various subcommands to Junko of the account "Junko".

When the user performs the deciding operation on a message transmission command button 902, one of the 10 subcommands, the messenger enters a messenger mode in which it exchanges messages with Junko of the account "Junko" in real time. FIG. 10 shows a viewer screen displayed in the messenger mode of the messenger.

In FIG. 10, a message screen 1001 has a message 15 log 1002, a message input window 1003, a transmission command button 1004, and others. The message screen 1001 shows a case where Maehiro of the account "maehiro" exchanges messages with Junko of the account "Junko".

20 The user named Maehiro inputs a transmitted message to the message input window 1003 from the software keyboard or the external keyboard (neither of them shown). Then, when the user performs the deciding operation on the transmission command button 25 1004 and transmits the input transmitted message to Junko, the transmitted message is additionally displayed in the message log 1002 next to the latest

message following "Junko>".

In addition, when the user named Maehiro receives a message from Junko, the received message is additionally displayed in the message log 1002 next to 5 the latest message following "maehiro>".

In this case, a message server system of the group of servers 102c which receives the transmitted message from Maehiro only distributes this message to Junko of the account "Junko" using the unicast function. Conversely, a message server system 10 10 receiving the above received message only distributes this message to Maehiro of the account "maehiro" using the unicast function.

On the other hand, the messenger of Maehiro's 15 client system 103a displays as the message log 1002 a log (communication record) of the transmitted and received messages exchanged with Junko of the account "Junko" as if a chat was going on between the two users.

20 Here, it is assumed that the user named Maehiro receives a message from a third person of the account Naoki while exchanging messages with Junko of the account "Junko" in the message mode of the messenger. FIG. 11 shows a viewer screen displayed in this case.

25 In FIG. 11, a message log 1102 of a message screen 1101 additionally displays a received message 1103, the latest message, after "Naoki>".

At this time, the messenger detects that the message exchanges with Junko of the account "Junko" have been interrupted by the received message from the account "Naoki", and thus displays a chat open item

5 1104 for prompting the user named Maehiro to open a new chat room, a chat member designating window 1105, and a chat room password input window 1106. The chat member designating window 1105 already displays the accounts "Junko" and "Naoki", which are the sources of

10 the messages received by the user.

Since the friend list on the messenger main window 602 contains the accounts "Junko" and "Naoki", the user determines that himself, the accounts "Junko" and "Naoki" have been acquainted with one another

15 through the online game. Upon determining that a chat room be opened for chats between the three users, the user performs the deciding operation on the accounts "Junko" and "Naoki" displayed in the chat member designating window 1105.

20 Then, the user inputs a password for a chat room to be opened, to the chat room password input window 1106 and then performs the deciding operation. Subsequently, the messenger transmits this password to the group of message servers 102c to enter a chat room

25 opening mode.

A message server system of the group of message servers 102c which has received the password opens a

new chat room and returns a chat room number automatically applied to this chat room, for example, the chat room number "123" to the messenger.

Subsequently, the messenger displays a chat room number display window 1107 and a chat command button 1109. The chat room number display window 1107 displays the chat room number "123" of the newly opened chat room.

10 The user named Maehiro inputs a transmitted message to a message input window 1008 from the software keyboard or the external keyboard (neither of them shown). Then, when the user performs the deciding operation on the transmission command button 1110 and transmits the input transmitted message.

15 At this time, the messenger, which is in the chat room opening mode, transmits the transmitted message to the accounts "Junko" and "Naoki" decided through the chat member designating window 1105. Additionally, this transmitted message acts as a chat start message
20 having the password input to the chat room password input window 1106, the chat room number "123" displayed in the chat room number display window 1107, and an attribute that is indicative of the chat room opening mode.

25 FIGS. 12 and 13 show viewer screens for the accounts "Junko" and "Naoki", which have received the chat start message.

In FIG. 12, a message log 1202 of a message screen 1201 additionally displays a received message 1203, the latest message, after "maehiro".

At this time, a messenger for the account "Junko" 5 detects that the received message 1203 is a chat start message having the attribute that is indicative of the chat room open mode, subsequently stores the accompanying chat room password and chat room number "123", and then displays a chat command button 1204.

10 In FIG. 13, a message log 1302 of a message screen 1301 additionally displays a received message 1303, the latest message, after "maehiro".

15 At this time, a messenger for the account "Naoki" detects that the received message 1303 is a chat start message having the attribute that is indicative of the chat room open mode, subsequently stores the accompanying chat room password and chat room number "123", and then displays a chat command button 1304.

20 In FIG. 11, when the user named Maehiro performs the deciding operation on the chat command button 1109, the chat application is activated and the viewer displays a chat screen 801 with the chat room number "123". The member list 804 displays a maximum of three accounts including "maehiro", "Junko", and 25 "Naoki".

In FIG. 12, when the user named Junko performs the deciding operation on the chat command button 1204,

the chat application is activated and the viewer displays the chat screen 801 with the chat room number "123". The member list 804 displays a maximum of three accounts including "maehiro", "Junko", and "Naoki".

5 "Naoki".

In FIG. 13, when the user named Naoki performs the deciding operation on the chat command button 1304, the chat application is activated and the viewer displays the chat screen 801 with the chat room number "123". The member list 804 displays a maximum of three accounts including "maehiro", "Junko", and "Naoki".

10

In the above embodiment, when the user named Maehiro receives a message from a third person while exchanging messages with another user in real time using the messenger, the messenger automatically opens a new chat room and allows the user named Maehiro to shift to the simply installed chat room.

15

(Client System Process)

20

A process procedure executed by the client system 103a to allow the user named Maehiro to exchange messages with Junko and Naoki as described above with reference to FIGS. 5 to 13 will be described below with reference to data in the memory card in FIG. 14 and the flow chart in FIG. 15.

25

The process procedure shown in FIG. 15 is achieved by the CPU 201a of the game machine body 201

of the client system 103a by executing the viewer program loaded in the RAM of the system memory 201b from the CDROM. At the same time, the CPU 201a references the data stored in the memory card inserted 5 into the memory card slot 201f.

In FIG. 14, a memory card 1401 stores authentication data 1402 and friend list data 1403.

The authentication data 1402 includes a master account used to log into the viewer and access the 10 group of servers 102, three subaccounts, and passwords each paired with the corresponding accounts.

The friend list data 1403 includes account friend 15 list data associated with each of the accounts. For example, account friend list data 1404 for the account "maehiro" have the accounts of subscribed users with whom this user has been acquainted through online games, set and registered therein as friends.

The account friend list data 1404 have set 20 information (for example, simplified profile 610) for the friend of each account.

The account friend list data may preferably be set by means of a friend list setting function of online games provided by the group of game A servers 102e and the group of game B servers 102f.

25 In FIG. 15, the CPU 201a checks the account "maehiro" and password input by the user through the initial viewer screen against a set of an account and

a password in the authentication data 1402 stored in the memory card 1401. If they are the same, this account is permitted to log into the viewer and the television receiver 202 displays the view menu screen

5 501.

Furthermore, upon detecting the deciding operation on the navigator command button 503, the CPU 201a activates the navigator. The CPU 201a then asks the group of servers 102 if they authorize the access 10 of the account and password used to log into the viewer. If the access is authenticated and the CPU 201a gets on line to the group of servers 102, the CPU 201a displays the messenger main window 602 on the viewer as shown in FIG. 6 and activates the messenger 15 (step S400).

The CPU 210a reads an account friend list data 1404 stored in the memory card 1401 and displays a friend list in the messenger main window 602 as shown in FIG. 6. At this time, the CPU 201a inquires of the 20 group of message servers 102c and obtains and displays the online friends 606 and offline friends 607 information and the status (for example, the names of online games the users are playing) of the users of the online friends 606.

25 Upon detecting that the account "Junko" 608 in the friend list of the main window 602 is indicated by the cursor, the CPU 201a displays the information on

Junko in the information window 609. The CPU 201a shows in the information window 609, the simplified profile 610 of the account "Junko" obtained from the account friend list data 1404 stored in the memory card 1401, and the status 611 of the users obtained from the group of message servers 102c.

Upon detecting the deciding operation on the account "Junko" 608, which is indicated by the cursor, the CPU 201a displays the friend screen 901 on the television receiver 202, the screen being used to issue various subcommands such as those shown in FIG. 9 to Junko of the account "Junko" (step S405).

Subsequently, upon detecting the deciding operation on the message transmission command button 902, the CPU 201a shifts the messenger to a message mode in which the user exchanges messages with Junko of the account "Junko" in real time, and then displays the message screen 1001 as shown in FIG. 10 (step 410).

The CPU 201a buffers (temporarily stores) the transmitted message input to the message input window 1003, in the RAM of the system memory 201b. Then, upon detecting the deciding operation on the transmission command button 1004, the CPU transmits a message send request with the buffered transmitted message and the account "Junko" added thereto as destination information, to a message server system of the group of message servers 102c (step S415). At

this time, the CPU 201a additionally displays the transmitted message in the message log 1002 next to the latest message following "Junko>".

In addition, upon receiving the received message 5 with the account "Junko" added thereto, from the message server system, the CPU 201a additionally displays the received message in the message log 1002 next to the latest transmitted message following "Junko>" (step S420).

10 Upon detecting the deciding operation on the transmission command button 1004, the CPU 201a repeats the steps S415 and S420 (step S435). The CPU 201a displays as the message log 1002 a log of the transmitted and received messages exchanged with Junko of the account "Junko" as if a chat was going on 15 between the two users (loop of step S415→step S420→step S435→step S415).

Then, upon detecting a received message from the third person of the account Naoki while exchanging 20 messages with Junko of the account "Junko" in the message mode, the CPU 201a displays the message screen 1101 as shown in FIG. 11 (step S435→step S440). At this time, the CPU 201a additionally displays the received message 1103, the latest message, after 25 "Naoki>" as the message log 1002.

The CPU 201a detects that the message exchanges with Junko of the account "Junko" have been

interrupted by the received message from the account "Naoki", and thus displays the chat open item 1104 for prompting the user to open a new chat room, the chat member designating window 1105, and the chat room
5 password input window 1106. The chat member designating window 1105 already displays the accounts "Junko" and "Naoki", which are the sources of the messages received by the user.

Upon detecting the deciding operations on the
10 accounts "Junko" and "Naoki" displayed in the chat member designating window 1105, the CPU 201a stores the accounts "Junko" and "Naoki" in the RAM of the system memory 201b as chat members (step S440).

Then, upon detecting that the chat room password
15 has been input to the chat room password input window 1106 and the deciding operation has then been performed, the CPU 201a stores this chat room password in the RAM of the system memory 201b (step S445).

The CPU 201a transmits a chat open request with
20 the chat room password added thereto, to the group of the message servers 102c to shift the messenger to the chat room open mode (step S450).

A message server system of the group of message servers 102c which has received the chat open request
25 with the password added thereto opens a new chat room and returns a chat room number reply with a chat room number, for example, the chat room number "123", added

thereto and automatically applied to this chat room.

Upon receiving the chat room number reply, the CPU 201a displays the chat room number display window 1107 and the chat command button 1109. The CPU 201a 5 also stores the chat room number added to the chat room number reply in the RAM and displays it in the chat room number display window 1107.

Upon detecting that a transmitted message has been input to the message input window 1008 and the 10 deciding operation on the transmission command button 1110 has then been performed, the CPU 201a transmits a chat start message transmission request with the transmitted message (chat start message) added thereto, to the message server system (step S455).

15 At this time, the CPU 201a adds the accounts "Junko" and "Naoki" stored in the RAM as chat members, to the chat start message transmission request as destination information. The CPU 201a further adds to the chat start message transmission request, the chat 20 room password stored in the RAM, the chat room number "123", and an attribute indicating that the messenger is in the chat room open mode.

Upon detecting the deciding operation on the chat command button 1109 shown in FIG. 11, the CPU 201a 25 transmits a chat room connection request to the message server system (step S460). At this time, the CPU 201a adds the chat room connection request with

the chat room password and chat room number "123" stored in the RAM, to the chat room connection request and transmits them to connect to the chat room. The CPU 201a then activates the chat application, receives 5 chat room data from the message server system, and displays a chat message from the chat room data in the chat screen 801 for the chat room number "123" as shown in FIG. 8.

If the users of the accounts "Junko" and "Naoki", 10 who have received the chat start message transmission request, have already connected to the chat room by transmitting the chat room password and chat room number "123" obtained by using the chat start message transmission request, then the CPU 201a receives a 15 list of members from the message server system and displays the accounts "maehiro", "Junko", and "Naoki" in the member list 804.

The CPU 201a buffers the transmitted message input to the message input window 803, in the RAM as 20 the system memory 2016. Upon detecting the deciding operation on the transmission command button 805, the CPU 201a transmits the message transmission request with the buffered transmitted message and the chat room number "123" added thereto, to the message server 25 system of the group of message servers 102c.

Immediately after this transmission, the CPU 201a receives chat room data from the message server system

and renews the chat window 802 with a chat message from the chat room data, while renewing the number list 804 with a member list from the chat room data (step S465).

5 Additionally, while waiting for chat reception, upon receiving chat room data from the message server system, the CPU 201a renews the chat window 802 with a chat message from the chat room data, while renewing the number list 804 with a member list from the chat room data (step S470).

10 Upon detecting the deciding operation on the transmission command button 805, the CPU 201a repeats the steps S465 and S470 (loop of step S465→step S470→step S475→step S465).

15 Upon detecting a deciding operation of causing the messenger to return to the preceding screen during the message mode, or a deciding operation for a logout operation, the CPU 201a ends the message exchanges executed by the two users using the messenger (step S435→end). Likewise, upon detecting, during a chat using the chat application, a deciding operation of returning to the preceding operation of a deciding operation for a logout operation, the CPU 201a ends the chat application (step S475→end).

20 (Other Embodiments)

25 In addition to the above embodiment, the following forms can be implemented:

1) In the above embodiment, the client system comprises a home video game machine, but it may be a PC.

In this case, the viewer may be stored in a hard disk instead of being loaded from the CDROM.

5 Additionally, the authentication data and the friend list data may be saved to a hard disk instead of the memory card 1401. Further, the controller may be replaced with a mouse or a keyboard.

10 2) In the above embodiment, the client system is a home video game machine, but it may be a terminal, a game machine, or the like which is installed in a game center.

In this case, the viewer may be stored in a built-in storage device beforehand instead of being loaded from the CDROM. Additionally, the authentication data and the friend list data may be saved to a hard disk instead of the memory card 1401. Further, the controller may be an arbitrary well-known 15 device.

20 3) In the above embodiment, the client system is a home video game machine, but it may be a portable information terminal such as a cellular telephone or a PDA (Personal Digital Assistant).

25 In this case, the viewer may be stored in a built-in storage device beforehand. Additionally, the authentication data and the friend list data may be

saved to a built-in flash memory instead of the memory card 1401. Further, the input device corresponding to the controller may be input keys or the like.

4) In the above embodiment, when a user receives a 5 message from a third person while the user is exchanging messages with another user in real time, the messenger automatically opens a new chat room and allows the user to simply shift to the new chat room for chats between the three users. The present 10 invention, however, is not limited to the shifting to chats between three users but is of course applicable to shifting to chats between four or more users if additional people generate interrupting messages while two users are exchanging messages.

15 The present invention has been described in detail with respect to preferred embodiments. It will now be more apparent from the foregoing to those skilled in the art that changes and modifications may be made without departing from the invention.

20 Therefore, the appended claims cover all changes and modifications that fall within the true spirit of the invention.